

What is claimed is:

1. A radio communication apparatus comprising:

a transmit power determiner for determining a transmit power value that will not interfere with communications between other stations based on a transmit power value obtained from the communications between the other stations;

an estimator for estimating propagation path loss of a communication channel based on propagation path loss information; and

a transmission rate determiner for determining a transmission rate value that will meet desired communication quality according to the determined transmit power value and the estimated propagation path loss.

2. A radio communication apparatus comprising:

a receiver for receiving a transmit power value and a transmission rate value determined by the other end of communication; and

a transmitter for transmitting user data with the transmit power value and the transmission rate value.

3. The radio communication apparatus according to claim 1, wherein the estimator estimates the propagation path loss, as the propagation path loss information, using a value indicating the reception quality of a known reference signal sent back from the other end of

09806027 032601

communication in response to the known reference signal transmitted from the radio communication apparatus.

4. The radio communication apparatus according to claim 1, wherein the estimator estimates the propagation path loss, as the propagation path loss information, using the reception power value and the transmit power value sent from the other end of communication.

10 5. The radio communication apparatus according to claim 1, wherein the estimator estimates the propagation path loss based on the propagation path loss information acquired a plurality of times during a predetermined time.

15 6. The radio communication apparatus according to claim 1, wherein the transmission rate determiner has a table of correspondence between determined transmit power values, estimated propagation path loss and transmission rate values and determines the transmission rate value with reference to the table of correspondence.

25 7. The radio communication apparatus according to claim 1, further comprising a transmitter for transmitting the determined transmit power value and the determined transmission rate value as a control signal and transmitting user data with the determined transmit power value and the determined transmission rate value.

09806027-032601
T092200 22090950

8. A base station apparatus equipped with a radio communication apparatus, the radio communication apparatus comprising:

5 a transmit power determiner for determining a transmit power value that will not interfere with communications between other stations based on a transmit power value obtained from the communications between the other stations;

10 an estimator for estimating propagation path loss of a communication channel based on propagation path loss information; and

 a transmission rate determiner for determining a transmission rate value that will meet desired
15 communication quality according to the determined transmit power value and the estimated propagation path loss.

9. A base station apparatus equipped with a radio
20 communication apparatus, the radio communication apparatus comprising:

 a receiver for receiving a transmit power value and a transmission rate value determined by the other end of communication; and

25 a transmitter for transmitting user data with the transmit power value and the transmission rate value.

10. A communication terminal apparatus equipped with a

09306027-032601
TOPSECRET

radio communication apparatus, the communication terminal apparatus comprising:

5 a transmit power determiner for determining a transmit power value that will not interfere with communications between other stations based on a transmit power value obtained from the communications between the other stations;

10 an estimator for estimating propagation path loss of a communication channel based on propagation path loss information; and

15 a transmission rate determiner for determining a transmission rate value that will meet desired communication quality according to the determined transmit power value and the estimated propagation path loss.

11. A communication terminal apparatus equipped with a radio communication apparatus, the communication terminal apparatus comprising:

20 a receiver for receiving a transmit power value and a transmission rate value determined by the other end of communication; and

a transmitter for transmitting user data with the transmit power value and the transmission rate value.

25

12. A radio communication method, wherein one radio communication apparatus determines a transmit power value that will not interfere with communications

09806027-032601
TOP SECRET//SI//NOFORN

between other stations based on a transmit power value
obtained from the communications between the other
stations, estimates propagation path loss of a
communication channel, determines a transmission rate
5 value that will meet desired communication quality
according to the determined transmit power value and the
estimated propagation path loss, sends the determined
transmit power value and the determined transmission
rate value as a control signal and sends user data with
10 the determined transmit power value and the determined
transmission rate value, and

the other radio communication apparatus sends user
data with the transmit power value and the transmission
rate value sent from the one radio communication
15 apparatus.

13. The radio communication method according to claim
12, wherein the transmission rate value is determined
before the user data is sent and the transmission rate
20 value is not changed until the communication is
completed.

09806027.032604
T0922072090860